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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,551	02/13/2002	Joachim Grabsoheid	VOI0216.US	6070

7590

08/14/2003

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EXAMINER

HUG, ERIC J

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/074,551	<b>Applicant(s)</b> GRABSCHEID ET AL.	
	<b>Examiner</b> Eric Hug	<b>Art Unit</b> 1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaakkola et al (EP 0 627 523) in view of Buck et al (US 5,389,206), and if necessary further in view of Braun et al (US 5,225,043) or Farrington et al (US 5,129,988).

Jaakkola discloses each and every elements set forth in claim 1 except that Jaakkola does not specify that the forming roll angle wrap is smaller than 7 degrees, nor does Jaakkola expressly disclose positioning a plurality of forming strips opposite the suction box disposed immediately downstream of the forming roll. With respect to the wrap angle, Jaakkola discloses on page 4, line 6 that the forming roll is a kissing forming roll, having a small wrap angle and no suction. It appears that from the description of the forming roll and the figures that this forming roll has a wrap angle of less than 7 degrees. Furthermore, the wrap angle of twin wires about a forming roll is well known to one skilled in the art to be a result effective variable that controls the amount of initial dewatering of the formed web. Therefore, even if Jaakkola does not strongly suggest that the wrap angle is less than 7 degrees, it is clear that the wrap angle is small, and optimization of the wrap angle with respect to desired initial dewatering would have been prima facie obvious, *In re Boesch*, 205 USPQ 215 (CCPA 1980) (the discovery of an optimum

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value of a known result effective variable without producing any new or unexpected results is within the skill of the routineer in the art). With respect to the forming strips, Buck discloses several twin wire configurations whereby resilient forming strips are disposed opposite a suction box. See particularly Figure 2 where forming strips are placed opposite a suction box located immediately downstream of the forming roll. The forming strips provide for enhanced and more uniform two-sided sheet drainage, with the result of such improved drainage being better sheet formation. See paragraph beginning column 1, line 40 which discusses the desirability of sheet formation. The benefits of this enhanced two sided drainage are reiterated throughout the Buck reference. Therefore, at the time of the invention, it would have been obvious to one skilled in the art to provide forming strips in the twin wire former of Jaakkola, and place the forming strips opposite the first suction box to provide the known advantages of two-sided drainage described above.

Furthermore, if necessary, Braun et al is cited as it teaches a similar twin wire former whereby the open forming roll may be wrapped by the twin wires at angle anywhere between 5-120 degrees, thus providing evidence that the wrap angle in a twin wire former can be less than 7 degrees.

Furthermore, if necessary, Farrington is cited to exemplify the well known use of machine wide separating elements/dividers in a headbox that feeds stock to a twin wire former. At the time of the invention, it would have been obvious to one skilled in the art to have used separating elements in the headbox of Jaakkola for the known advantages of dividing the flow into layers.

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All other features of the dependent claims are shown or suggested by Jaakkola, and have already been addressed in the previous office action. These are reiterated here as follows for completeness:

Jaakkola clearly teaches that forming roll 11 may be an open forming roll. It is also disclosed on page 4, lines 35-36 that the diameter of the forming roll may be from .5 to 1.5 meters (therefore can be less than 1.4 meters). There is also a forming suction box 22 immediately following the rotating forming roll. There also is clearly shown in the Figures a wedge shaped inlet nip as claimed. There is clearly shown a central area with a plurality of dewatering elements and forming elements (suction boxes and flexibly mounted forming strips). Furthermore, the apparatus is inherently capable of being operated at any stock consistency and therefore this is not a structural limitation on the former. Nevertheless, the claimed stock consistency is typical of what is practiced in the papermaking art, as exemplified by Jaakkola at page 6 which teaches that the consistency is .5-1.7% coming from the headbox, which overlaps the claimed range of .4-2%.

Note also that Jaakkola teaches on page 6, lines 20-23 that one of the essential features of this machine is that water is removed on the former rolls to a considerably lower extent than in a prior art former. This is noted because this is one of Applicant's stated goals, to have minimal dewatering at the forming roll.

With respect to claims 2-3, it is well known to have alternatively a honeycomb open surface or a grooved, drilled, or bored surface for an open forming roll. With respect to claims 7 and 8, note that Jaakkola explicitly teaches that the radius of forming suction box 22 may be from 2-8 meters and the radius of the forming suction box 40 may be 3-8 meters (see page 4,

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lines 48-50; page 5, lines 13-15). With respect to claims 15, 16, 21, 22, and 24, these features are all exemplified in the Figure 5 embodiment of Jaakkola.

***Response to Arguments***

Applicant argues that no combination of previously cited references suggests the twin wire former as claimed by claim 1 as having "...a plurality of forming strips located opposite said forming section box...". This argument is now moot in view of the new grounds of rejections presented here in view of the Buck reference described above.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

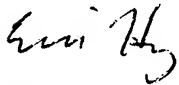
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 703 308-1980. The examiner can normally be reached on Monday through Friday, 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0651.



jeh  
August 4, 2003



PETER CHIN  
PRIMARY EXAMINER